35/9 April 1970

Soil Conservation

Devoted to the wise use of land and water resources

FOR A BETTER ENVIRONMENT

Stream cleanup
Strip-mine restoration
Youth activities
and other examples

Soil Conservation Service, U.S. Department of Agriculture

Soil Conservation

Devoted to the wise use of land and water resources

Vol. 35, No. 9 April 1970

Concern . . .

The current groundswell of concern with quality of the human environment brings us an exciting selection of contributed articles this month.

Positive gains at the ground level are being made by citizen efforts to clean up a stream in a conservation district (p. 195), a mining company's reclamation of strip-mined land (p. 200), and a small city's resource development plan (p. 201).

A selection of examples (p. 197-199) of action by and with young people—who have the most at stake in the matter—indicate the depth and range of the movement.

Who is to say that activities like these, originating naturally in conservation districts, have not been a strong force in today's eruption of awareness of environmental deterioration?

Let's hope the same force will be harnessed to constructive conservation action.

COVER: Our new symbol, featured on this month's cover, had an auspicious birth.

It won first prize for symbol design from among 100 entries in the 1969 Competition of the Society of Federal Artists and Designers.

Three independent judges (all designers from outside the Federal Government) selected it on the basis of aptness, strength of design, and originality.

The symbol also won Best of Show for Graphic Design, the highest award in the competition. Designer was Gordon Thomas of the USDA Exhibit Service.

The symbol can be used in black-and-white or in color. Official colors are electric blue for the falling droplet, apple green for the contour band, and black for the background field.

The design is interpreted as meaning that soil and water conservation involves controlling the force of falling rain and running water with vegetation and structures in combination.

195 **A district starts stream cleanup**
Robert A. Speich

197 **Young people are concerned . . .**
. . . about habitat preservation; critical erosion; pollution; litter

200 **Phosphate companies succeed in mine reclamation**
John B. Reed

201 **A city uses its resources**
By J. Paul Sidwell and A. K. Booher

202 **Flat channel terraces aid farmers**
By F. Eugene Liggett and Glen H. Buchta

204 **The timber giants return**
By Clark A. Eacker

206 **Campus plant plots point to careers**

207 **RC&D sponsors find markets for plums**
By Donald W. McAndrew

208 **Conservation in action**
Reclaimed gravel pits, New York; sheep range, Utah; watershed recreation, California and Colorado; youth reservation, Illinois

211 **Review**

212 **Meetings**

214 **Recon**

215 **From the Administrator**
Districts and the new Everybodies

216 **Woodland contest yields double prize**

Prepared in the Division of Information, Soil Conservation Service, U.S. Department of Agriculture, Washington, D.C. 20250

CLIFFORD M. HARDIN, Secretary of Agriculture
KENNETH E. GRANT, Administrator, Soil Conservation Service
BEN O. OSBORN, Editor
GEORGE A. KELLER, Production Editor

Staff contributors this issue: Charlotte Conrad, p. 198; T. A. Jenkins, p. 206.

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A district starts stream cleanup

By Robert A. Speich
RC&D project coordinator, SCS,
Princeton, W. Va.

West Virginia's East River is first target of new environmental improvement association

Trout and trout fishermen returned to Pigeon Creek in Mercer County, W. Va., this spring as a result of citizen efforts to clean up the stream.

The West Virginia Department of Natural Resources dropped Pigeon Creek from its stocking schedule in the early sixties because the waters had become so foul they no longer were suitable as trout habitat.

The little stream was the first target for concentrated effort in a program initiated by the Southern Soil Conservation District to rid its streams of pollution and improve the general environment. Sufficient progress has been made that the state fish hatchery people resumed monthly stocking of the stream in February of this year, to the delight of local anglers.

Pigeon Creek is a tributary of East River and typical of the pollution problems of the region. Its headwaters rise from a limestone spring in the railroad yards of Bluefield, W. Va. Along major stretches of its banks are railroads, highways, and ribbons of residential and industrial development. There is no central garbage disposal system in Mercer County and municipalities dump inadequately treated waste into the water. Mud from roadbanks and eroding farmland of the 46,000-acre drainage area clogs its once popular swimming and fishing holes.

When the Mountain-Dominion Resource Conservation and Development Project was organized, the Southern District board of supervisors proposed a project measure to clean up the East River. In February 1969, they helped organize the East River Improvement Association. Under the leadership of Board Chairman J. R. Keatley and Supervisors Dr. Daniel Hale and Dr. Meade McNeill, they established 14 resource committees

Ten truck loads of trash was gathered and hauled away from the trout stream.

A 75-man crew worked 2½ hours to remove trash from a 1-mile stretch of Pigeon Creek.

within the association to deal with different aspects of the environment. G. E. "Ed" Davis, leader of the Oakvale Ruritan Club, was elected president of the association.

Resource committees

The resource committees already have several accomplishments to their credit. In April 1969, 75 members of the Improvement Association, Ruritan Club, Interact Club, and Mercer County Anglers Club turned out to clean up Pigeon Creek. With trucks, tractors, and wreckers, they hauled 10 truckloads of assorted junk from the stream. The quality of the water was sufficiently improved that the state fishery agency resumed stocking.

Watershed treatment

Soil Conservation Service personnel assisting the district have worked with cooperators in completing seven soil and water conservation plans in the East River watershed. The plans call for practices and land use changes to reduce sediment going into the river.

Efforts of the Agriculture Committee of the association resulted in allocation of $4,000 in special Agricultural Conservation Program funds for land-treatment measures in the watershed. The Mercer County ASC Committee matched this with another $4,000 of county ACP funds.

The Forestry Committee sponsored a tree-planting demonstration to encourage landowners to reforest idle acres. Service foresters of the Department of Natural Resources are making a forest resource inventory of the watershed to guide the committee in upgrading the area's woodland. Biologists of the department are working with the Wildlife and Recreation Committees studying stream conditions and wildlife habitat.

Canvass of pollution

The Division of Water Resources, using Neighborhood Youth Corps boys, conducted a house-to-house and business-to-business canvass of the pollution problem. Homeowners and business operators were asked to identify their problems of sewage and garbage disposal and their sources of drinking water. The results have been tabulated and are now being considered by the Southern West Virginia Regional Health Council in planning for a demonstration area which will provide for complete abatement of human waste pollution in the watershed. The Youth Corps boys did such an outstanding job they were asked to conduct a similar survey in the neighboring Brush Creek watershed.

West Virginia State Road Commission cooperated by providing men and machinery to seed 10 acres of bare roadbanks as an RC&D project measure. The Soil Conservation Service provided technical assistance in planning the treatment program of which the seeding is a part.

Sediment and detergents

The Norfolk and Western Railway, working with the Department of Natural Resources, has begun a program to reduce the amount of sediment and detergents coming into East River from its Bluefield yards. The company has built several settling basins and has others planned. Officials are studying the possibility of spreading effluent from the Bluefield sewage treatment plant on vegetation as a "living filter" in the final step in purification.

The conservation district supervisors recently voted to form a conservation work crew for Mercer County, giving first priority to the work needed in the East River watershed. The crew will be available for hire to district cooperators to do tree planting, fencing, timber-stand improvement and harvest cutting, spring development, pond construction, and many other jobs. The supervisors believe that conservation on the land will increase when a trained crew is available to do the work. ◆

Young people are concerned about the environment . . .

Girl Scouts organize a 'hill day' to stabilize eroding slopes

One hundred and sixty tons of sediment deposited in Little Sugar Creek each year—that was the dirty record of this ½-acre gullied hill at the edge of Bellbrook in Greene County, Ohio.

Little Sugar Creek is the pride of scenic Sugarcreek Township, but the eroded area was not exactly America the Beautiful. The hill was bulldozed for a shopping center several years ago, but construction never materialized. The unprotected cut slopes became a gullied eyesore and a threat to the creek.

Girls of a local scout troop voiced their concern and their leader, Mrs. Robert M. Hunter, asked the SCS soil conservationist, "Can't something be done?"

"Yes, of course, if the owner is interested."

He was. Gomer Bledsoe became a cooperator with the Greene Soil and Water Conservation District, and his conservation plan included provisions for smoothing the gullied area, then planting trees, shrubs, vines, ground cover plants, and grass. The Girl Scouts offered their help in planting the trees and shrubs.

Four of the girls volunteered to sponsor the effort as a community service project. They notified the leaders of every Boy Scout and Girl Scout troop in the Bellbrook area of their plan and secured most of the plants used.

"Hill Day" was set for Saturday, April 26. Different troops were scheduled to arrive at the hillside every half hour and work for 1 hour. Some 300 girl and boy scouts participated during the day.

Mr. Bledsoe, the owner, did much of the advance earthmoving, operating a bulldozer himself. He also purchased fertilizer, seed, and straw for mulch. He planted the grass and applied the mulch before Hill Day. The youngsters planted more than 400 trees and shrubs on the slopes.

Erosion of the hill is now halted. Today the area has a new look to complement the surrounding hills of Sugarcreek Township.

The area will be a real test plot, too, because of the variety of plants used. Kentucky 31 fescue and crownvetch were seeded over all. Trees, shrubs, and other perennials were planted in selected areas. They include: autumn olive; white, red, and Austrian pine; Norway spruce; iris; dogwood; junipers; and ivy and myrtle vines.—DONALD W. JACKSON, *district conservationist, SCS, Xenia, Ohio.*

Girl Scouts, dismayed at erosion on an unused building site, helped plant trees after slopes were shaped and sodded.

Young people are concerned . . .

Students stage a 'TRASH BASH' work for habitat preservation

Twelve hundred students rallied in front of the University of Maryland's administration building last May—but not to tear it down. Their mission was to clean up the 1,300-acre campus around it.

The Saturday "Trash Bash," sponsored by the North American Habitat Preservation Society (a student-run organization), was "an all-out effort to show the American people that college students are willing to work for changes," according to R. Doyle Grabarck, NAHPS president and founder.

School officials were pleased by results of the 1-day war on litter. "It was an excellent expression of cooperation from both sides," Dr. Walter B. Waetjen, vice president for administrative affairs, said. "We were delighted to provide the logistic support requested by students for this project."

As nine 5-ton trucks followed them around most of the day, the volunteers—more than half of them coeds—picked up more than 17 truck loads of loose trash. Group leaders helped make sure the campus was covered thoroughly.

Grabarck, a graduate student, and Joanne McKenna, sophomore, were recognized by the Maryland Environmental Trust for their successful effort to "nudge student potential in the proper direction." Both received the Governor's Environmental Trust Citation last September. Although the society surfaced to promote and carry out the public pickup project, most of its work goes on with less fanfare. Most of its plans revolve around far-reaching issues related to environmental protection and public information.

Other projects include:

—raising funds to buy secondhand printing equipment for publishing conservation pamphlets;

—planning a free course on environmental problems this summer at the University of Maryland;

—circulating petitions asking the Maryland Department of Water Resources to deny permission to operate a controversial nuclear power plant until company officials certify their intent to provide optimum protection for the Chesapeake Bay;

—drafting and circulating a petition to the United Nations urging accelerated, unified efforts to achieve "a goal for this millenium . . . the family of man living in balance with its environment in a world of peace;"

—presenting plans for a computerized Business Environmental Research Center to 170 major corporations;

—and defending environmental quality in court (e.g. a case against developers near Ocean City, Md., for filling marshes).

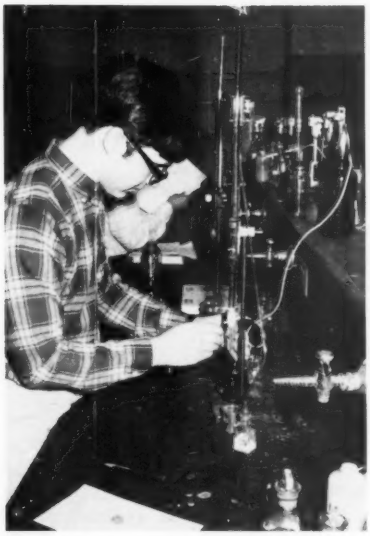
Grabarck's staff of 15 students and school teachers handles the society's printing and paperwork in Adelphi, Md., near the campus. The office is open and busy 7 days a week—and often as long as 17 hours a day, according to the schedules and stamina of the workers.

NAHPS was incorporated in Pennsylvania last March as a tax-exempt organization to encourage pollution-control programs that emphasize prevention rather than cleanup; to oppose production-consumption patterns that lead to plenty of pollution in this land of plenty; and to foster the notion that the costs of pollution control are not prohibitive.

Today 60 percent of the 4,300-plus Maryland residents who belong to the society are under 30. Although students deal with the everyday work and worry of running NAHPS, many other talented men and women give free advice, often on short notice.

"A belief strongly held by this society is that we in the United States have the brains, the technology, and the money to develop our industries without raping nature," Grabarck said.

Organizers of the "Trash Bash," R. Doyle Grabarck and Joanne McKenna (second and third from right), were presented the Governor's Environmental Trust Citation by Mrs. Randolph W. Jones, the Governor's administrative assistant. Looking on are University of Maryland President Dr. Wilson H. Elkins (left) and Vice-President of Administrative Affairs Walter B. Waetjen.



Students check water samples for dissolved oxygen and biological oxygen demand.

Chemistry class mounts crusade against pollution

Chemistry students at Bridgeton, N.J., High School are doing more than just talk about pollution. They've started a full-scale technical research study of water-pollution problems of the Cohansey Creek, the principal watershed in their community. Under the leadership of Arthur E. Knudsen, Jr., their chemistry instructor, a group of senior high chemistry students initiated the group study of their community's water problem.

The New Jersey Department of Education provided a $1,000 "mini-loan" to help the Chemistry Department defray the costs of the research.

To gain background for their research, students reviewed literature, visited industrial facilities, and talked to qualified professionals.

Now, students weekly sample the river at designated sites and test for biological oxygen demand, dissolved oxygen, presence of detergents, acidity, bacterial count, and "stability," a test for effective treatment.

"Transforming theoretical science into a practical topic is what it's all about," says Knudsen. "To arouse the public by providing them with conclusive evidence of pollution is an imposing goal. Youthful enthusiasm, understanding, guidance, and expanded opportunities will achieve it."—JAMES S. WASSON, *district conservationist, SCS, Bridgeton, N.J.*

Students survey litter by schools

A month's accumulation of four bushel-size boxes of cans, bottles, paper cartons, and other items that motorists discard were collected by students at Short Mountain Elementary School in Cannon County, Tenn., from 540 feet of frontage along State Highway 146.

Principal Kenneth Muncy made an exercise in conservation for the seventh grade out of the cleanup. The students separated, counted, and weighed the collected waste. They measured the road distance bordering on the school grounds. Then they calculated the number of pounds of waste along 1 mile of highway, along roads throughout Cannon County, and the cost per mile of cleaning up all the waste.

The students interviewed highway maintenance workers about the county's trash-littered roads. Muncy, who is a member of the Cannon County Soil and Water Conservation District Board, believes that children should start learning about the need and importance of resource conservation while they are in the lower grades.

In addition to the antilitter campaign, pupils are encouraged to take an active part in tree planting, school ground beautification, Arbor Day ceremonies, and other conservation activities.— WILLIAM L. CLEMENT, *district conservationist, SCS, Woodbury, Tenn.* ◆

Roadside litter gives seventh graders something to figure on.

At left, the area to the rear has been smoothed and reclaimed while mining continues in the foreground. Since the picture was taken, a golf course has been built on the area. Below, earthmovers strip away overburden to reach phosphate.

Phosphate companies succeed in surface-mine reclamation

By John B. Reed
District conservationist, SCS, Lakeland, Fla.

Surface-mining in Polk County, Fla., produces the Nation's highest phosphate yields and some of the ugliest scars on the landscape of the Sunshine State. But new methods, initiated in the early sixties, combining restoration with the mining operation, are reversing the trend.

Giant draglines, whose maws gobble up 45 cubic yards of earth in a single bite, work continuously feeding rock to pipelines that carry it to processing plants. Filling, grading, and revegetation follow close behind the excavation.

The phosphate companies, cooperators with the Polk Soil and Water Conservation District, receive assistance from the Soil Conservation Service in planning for reclamation of the surface-mined areas. Conservation plans are also being developed on areas not immediately scheduled for mining. More than 1,000 acres a year are being planted to pine seedlings.

Trial plantings of grasses and legumes have been made to test their adaptability to the revegetation program for reclaimed areas. Plant materials supplied for evaluation by the SCS Plant Materials Center at Brooksville, Fla., include buffelgrass, Texas millet, signalgrass, giant lovegrass, Arb peanuts, jointvetch, and a recently introduced grass, *Hemarthria*.

Under new procedures, all land that is mined is reclaimed except areas needed for settling waste colloidal clay and for water conservation basins. Large tracts of minable land are first divided into smaller segments, and work is concentrated on a minimum area.

Most reclaimed areas are used for farming purposes, such as citrus orchards, vegetable farms, and improved pastures. Land adja-

A fashionable residential subdivision south of Lakeland City has been built on reclaimed surface-mined land.

Giant lovegrass, originally planted on a half acre, has spread to cover 4 acres on a strip-mined area. John Hunt (right), land manager for the mining company, examines the tract with SCS Conservationists John Reed (left) and Melvin Broxson.

cent to cities has a high value for residential use and some is devoted to development. Other areas have been sold for youth camps, industrial sites, and highway rights-of-way.

One of the phosphate firms reclaimed and donated to the county a 740-acre tract now known as Saddle Creek Park, near Lakeland. It is equipped with nature trails, camping facilities, playgrounds, a marina, and facilities for various water activities. Prior to mining the area was an inaccessible swamp.

A 3,000-acre tract near Lakeland is to be developed for homesites. It is one of many tracts mined according to the plan which specifies leveling and filling at the time of mining.

Before conservation-minded leaders took steps to change Polk County's surface-mining operations, the ground was left scarred and pitted at the conclusion of mining operations—a public eyesore.

Today, the picture is changing, and instead of ugly scars, the land is being left in a leveled, usable condition—a community asset. ◆

City uses its many resources

A small city in north-central Tennessee found in the Hull-York Lakeland RC&D Project the means of preparing its own resource conservation and development plan and setting its course toward economic betterment.

Allardt, population 700, was incorporated in 1965. Its mayor, Oscar Gernt, was a local leader active in organizing the 11-county RC&D Project. Through him, the Allardt city council enlisted the help of the project organization and the Fentress County Soil Conservation District.

Experts from many agencies helped Allardt leaders study the community needs and its natural and human resources. More than 500 people participated in the study. Many committees specialized on certain aspects of community life and combined their findings and conclusions into a resource conservation and development plan for the city.

Mayor Gernt checks one of the 3,000 dogwood trees planted along Allardt's streets, one of the city's many projects.

Ten significant projects slated for early completion resulted: (1) A community center; (2) a recreation area; (3) control of unsightly, sediment producing, eroding roadbanks; (4) landscaping school grounds; (5) screening unsightly buildings; (6) beautifying the community park; (7) a sanitary landfill; (8) street improvement; (9) an adequate supply of domestic and industrial water; and (10) conservation plans for all farms in the Allardt vicinity.

"Perhaps we were a little skeptical of what we could accomplish," Mayor Gernt said. "The fact is we have been able to accomplish much more than we thought possible. One of our accomplishments is the community recreation facility."

Other accomplishments include the planting of flowering crabapple, bush honeysuckle, and hawthorne to beautify the school grounds and community parks, and 3,000 dogwood trees along the streets. The Home Demonstration Club planted flowers at street intersections.

"When the cleanup campaign began to bog down because the community did not have an adequate disposal area, the Soil Conservation Service helped select a site for a sanitary landfill.

"After we had our landfill in operation, people began picking up junk that had been lying around for years," Mayor Gernt said.

"We've made much progress in all phases of our resource conservation and development plan, and we're still working on it."—J. PAUL SIDWELL AND A. K. BOOHER, *district conservationist and RC&D project coordinator, SCS, Jamestown and Cookeville, Tenn.* ◆

Flat channel terraces aid Nebraska farmers

By F. Eugene Liggett and Glen H. Buchta
District conservationist and area engineer, SCS, McCook, Nebr.

Flat channel terraces, a new approach to soil and water conservation in the Great Plains area of southwest Nebraska, adapt themselves effectively to modern farming methods by reducing operational costs, halting erosion, and helping to stabilize yields while accommodating today's multirow machinery.

Floyd Peters of McCook, Nebr., was one of the region's first farmers to recognize the benefits of the new terraces. He likes them because they are designed to hold 50-year frequency storms, whereas standard terraces are designed for 10-year storms. In addition, the 54-foot-wide channel area is leveled like irrigated land but not taxed like it.

Flat channel terraces are designed to hold 50-year frequency storms, whereas standard terraces are designed for 10-year storms.

Channel benefits

Peters prefers dryland farming to irrigation, now that he has the new terraces. A 220-acre field has nine terraces across it with 42 acres in channels—one-fifth of the field. He plants sixteen 40-inch rows of grain sorghum in each channel, and every row is the same length. The channels catch and hold runoff from rain or snow, storing it for dry spells. Since building the terraces in 1965, Peters has averaged 70 to 80 bushels of grain sorghum an acre annually.

Cultivation practices

Between the terrace channels Peters grows wheat, which requires no special cultivation, and eliminates any need for parallel terracing. Seven or eight operations are needed to fallow the land and drill the crop, he says. In the terrace channels he gets a grain sorghum crop every year with three or four operations. Channel farming is easier since the land is level. Fallowing is unnecessary there since the moisture is trapped by the terrace.

Terrace pioneers

Raymond Haag and his father, Leo, farm south of Bartley, Nebr. They too helped pioneer the use of flat-channel terraces among cooperators in the Red Willow Soil and Water Conservation District. Since 1963, they have built 28.5 miles of new-style terraces. The Haag's 1969 grain sorghum yield was more than 100 bushels an acre in the channels while the intervals between terraces contributed little to the total crop.

Peters and others in the area get even more benefits from flat channel terraces by building them to pick up water from road ditches at the edge of the field and channel it into cropland. Thus, they help reduce flood dangers, stop roadside erosion, and add moisture for the crops.

In 1965, the terraces cost 12 cents a linear foot to build. Now it costs 15 to 16 cents. Cost-sharing

Standing milo stubble in the channel protects field from wind erosion and catches snow in the winter.

Chiseling breaks up compacted layer of soil in flat terrace channel.

is available through the Agricultural Conservation Program or the Great Plains Conservation Program.

A temporary problem with flat-channel terracing is the compaction of the soil by heavy construction machinery. Chiseling, however, helps remedy the situation, as do natural factors such as freezing, thawing, and organic matter. Also, extensive earthmoving may affect soil fertility, but this can be offset by use of fertilizers. Heavy rains following planting may sometimes make replanting necessary.

From the overall standpoint of drought insurance, flood and erosion control, stabilized yields, and modern conservation requirements, however, Great Plains farmers are finding that the balance swings heavily in favor of flat channel terraces.

"It isn't how much money you handle, it's how much you have left at the end of the year that counts," says Floyd Peters. ◆

Earthmovers shape flat channel terraces in Red Willow County, Nebr.

Lining canal speeds water, reduces losses

Last May the Lyman Irrigation Canal in Arizona carried water to crops in a little less time than usual.

Water traveled the first mile in just 31 minutes, thanks to newly installed lining. The next 1-mile stretch took 4½ hours and only 40 percent of the water passed through. Negotiations are underway for lining the second of the 9 miles in the entire ditch.

The possibility of saving so much water had appealed to others in the Apache Soil Conservation District who first saw "slipform" lining used on the Rancho Allegro farm in 1964.

The final plan developed with the aid of the Soil Conservation Service accounted for three cattle crossings, a watering outlet for buffalo in Lyman State Park, and corrugated metal pipes to route floodwater under the canal, in addition to the lining.—LYMAN A. HAVERFIELD, *district conservationist, SCS, Springerville, Ariz.* ◆

By Clark A. Eacker
District conservationist, SCS, Ann Arbor, Mich.

The era of the vast red and white pine forests in Michigan is now history. Only the legends remain. Northern Michigan, however, is witnessing the return of these timber giants.

The Otsego Soil Conservation District, located in the northern portion of Michigan's lower peninsula, has long promoted tree planting on marginal cropland and cutover timber areas. As a result, many landowners within the district are now reforesting this type of land

Giant stumps (top) are sad reminders of northern Michigan's great 19th century forest. Children (right) of a cooperator share the conservation experience.

The conservation district provides equipment for planting trees.

The timber giants return

for the purpose of timber production.

Trees have been planted on more than 11 square miles of Michigan's Otsego County during the past 25 years. Most of its more than 500 square miles was once covered by the legendary Old Growth. Four-fifths of the county is still considered as forest, and these plantings supplement the second growth areas which have grown up through the years.

According to Al Kassuba, Otsego District forestry chairman, "Many of our sandy northern soils are best suited to growing trees. Soil that is too light to produce potatoes or even hay and pasture will often do a good job of raising trees. Trees, like potatoes, are a crop."

Red pine continues to be the primary species used for reforestation. It has proved to be relatively free of disease problems and does well on sandy soils.

White pine is used in forest openings under existing hardwood cover. It will tolerate shade from other trees and can be planted where sunlight reaches the forest floor.

Each spring the Otsego District makes tree-planting service available to landowners. All the landowner has to do is decide where he wants the trees planted, and the district's tree planting team does the rest. Kassuba says, "This enables nonresident landowners who do not have the time or equipment to do the work to carry out a tree planting program."

Last spring the district planted more than 100,000 red and white pine seedlings. Many were planted on idle areas, and some used to convert marginal cropland to woodland.

Northern Michigan is witnessing the return of its legendary timber, and the majesty of the big pines again will grace the landscape. ◆

A maturing red pine forest nears time for harvest cutting.

Contour reforestation returns cutover and idle land to productive use.

Campus plant plots point way to careers

At 17 colleges and universities throughout the South, plots of grasses, legumes, and shrubs are doing a special show-and-know service in soil and water conservation.

They are helping to search out and test plants for conservation uses. At the same time they are giving students a chance to know and sound out career opportunities in conservation and related sciences.

The plots are performing their functions well. At Tennessee State University at Nashville, Dr. Fred Westbrook, Agronomy Department head, reports the plots there provide an outdoor laboratory where classroom teaching comes to life.

"Students show more interest in their work when they can see and touch the plants they are studying," Dr. Westbrook explained.

The plots are paying a doubled return in training highly qualified young employees for the Soil Conservation Service. Thirty-seven graduates of Tennessee State are working for SCS in 20 states as conservationists, engineers, and specialists. Others, not yet with degrees, are trainees.

The two most recent graduates of Tennessee State to join SCS are Bobby Pirtle and George McElrath, Jr., who got bachelor of science degrees in August. Like others there, they to a great degree developed interest in conservation work through experience with the plantings.

Similar results are reported from the other institutions.

Establishing outdoor laboratories in cooperation with agricultural colleges and universities was an outgrowth of a recommendation in 1966 by the Secretary of Agriculture's Public Advisory Committee on Soil and Water Conservation.

The committee suggested a limited number of geographic areas where the need for plant materials in conservation was not being met. On the committee at the time was Dr. David A. Hamilton, dean of Agriculture and Home Economics at Tennessee State. Dr. Hamilton was interested and began developing a plan for his institution to work in conjunction with the SCS Plant Materials Center serving the area.

In North Carolina, SCS State Conservationist J. P. Kuykendall talked over the possibility of a plot at North Carolina Agricultural and Technical State University at Greensboro with Dr. Burleigh C. Webb, dean of Agriculture. An agreement was signed by representatives of the university and the SCS.

Eighty-five species, strains, and varieties of plants went into the first plot at North Carolina A. and T. Fifty more were added in 1969.

Fifteen students from North Carolina A. and T. have entered the ranks of professional conservationists in the last 3 years.

At Prairie View Agricultural and Mechanical College in Texas, Professor Oliver Smith believes the educational value of the plot there matches the research value, although the latter was urgently needed in that section of Texas.

"We orient freshman agriculture students to the plots as a first step

At Tennessee State University a graduate student, Everett E. Holmes (right), works with SCS Agronomist Clarence Jent in evaluating plants for soil and water conservation.

At the marker of plant materials plots at North Carolina A. and T. University are (left to right), SCS District Conservationist Henry W. Robertson, President Lewis Dowdy, and Guilford County Extension Agent B. A. Hall.

in their education," he said. "We use the plots in teaching plant identification, planting and culture, adaptation and ecology, economics, erosion control, and wildlife management. Prairie View is strategically located for the study of plants in the coastal region. Our work is extremely helpful to the Soil Conservation Service."

Landowners farming near some of the schools have become interested in the work in the outdoor laboratories. Professional conservationists and land use planners are keeping in touch, too.

At Tennessee Technological University at Cookeville a stock of a new bermudagrass has been established and is used to sprig heavy traffic areas. And at Arkansas Agricultural, Mechanical, and Normal College at Pine Bluff the football field has been carpeted with a new grass variety which now bears the name "Tufcote."

Other colleges active in the cooperative program are: Tuskegee Institute, Tuskegee, Ala.; Southern University and A. & M. College, Baton Rouge, La.; Alabama Agricultural and Mechanical College, Normal; Mississippi State University, State College; University of Puerto Rico, College of Agriculture, Mayaguez; South Carolina State College, Orangeburg; University of Tennessee, Knoxville; Texas Technological College, Lubbock; Delaware State College, Dover; Virginia State College, Petersburg; Lincoln University, Jefferson City, Mo.; and Fort Valley State College, Fort Valley, Ga. ◆

RC&D sponsors find new market for wild plums

By Donald M. McAndrew
Hydrologist, SCS, Reno, Nev.

Wild plums—nourishing fare even for prehistoric man—may give new economic sustenance to 20th century man in an unusual experiment that is part of the SCS-sponsored North Cal-Neva Resource Conservation and Development (RC&D) Project in two Western States.

Long before the white man came, Indians depended on the wild plums as a substantial source of food. Women harvested over-ripe plums and dried them in the sun. In 1832, Hudson Bay trappers discovered the delicious fruit while exploring the Pit River in Oregon.

The wild plum, or wild Indian cherry, is scientifically known as the Sierra plum (*Prunus subcordata,* var. *Oregana*). In the wild, it is a deciduous shrub, 4 to 8 feet high, growing in the valleys and canyon bottoms of the Warner Mountains in northern California and Oregon.

Twenty years ago, some Goose Lake Valley residents selected the best wild plum trees available and propagated them for orchard production. New trees are formed by grafting the Sierra plum to a peach root. Grafted trees typically have crooked, rough, gray-brown branches and reach nearly 20 feet high when mature.

Jack and Virginia Hinton's 12-year-old wild plum enterprise near Pine Creek, Oreg., is an important measure in the success that RC&D sponsors hope will spread throughout the valley. She runs the Hinton Wild Plum Kitchens; he tends the trees and harvests the crops. More than 12,000 pounds of plums were harvested and processed in Hinton's Wild Plum Kitchens during 1968.

With the recently completed expansion of Hinton's processing plant, the owners estimate that they can process 80,000 pounds of wild plums annually. They plan to keep the processing plant running every day, and to increase substantially their own future plum production. Even so, to meet their capacity, other growers must produce much of the fruit in future processing. Fully operational, the new processing plant will require four permanent employees and 20 to 30 employees during harvest.

New Pine Creek, Oreg., located near Goose Lake Valley, serves as the center of the new commercial enterprise because of the excellent source of native wild plums grown in the surrounding mountains and cultivated orchards. The Soil Conservation Service assists in selecting and planning the preparation of suitable orchard sites. Other agencies formulate plans for the promotion and expansion of commercial markets for plum products. ◆

Jack Hinton's interest in wild plum trees is sparking new economic activity in the North Cal-Neva RC&D Project.

Greenbacks bring green back to gravel mines

New York

Mineowners in Port Washington, N.Y., have been putting money into banks that have given them tons of valuable sand and gravel.

Several years ago, erosion on steep slopes left by mining operations threatened some homes in the Nassau County town. Other residents were disenchanted with the image the unsightly banks presented to passersby. Owners of gravel mines along Hempstead Harbor were urged to revegetate the worked-out parts of the rich, local deposits.

The J. H. McCormick Company (one of the largest) contracted with Hans Weigert, a landscaper from Huntington, N. Y., to reestablish cover on mined areas. Weigert in turn initiated a cooperative venture with the Soil Conservation Service that has brought beauty and stability to some spots that were once eyesores.

Some new kinds of plants supplied by SCS Plant Material Center were planted for testing along with commercially available materials after Weigert did preliminary work on the slopes. Cultural measures used to prepare the ground were: Grading to 1½ to 1 slope where possible; diverting water or installing closed conduits to carry it safely down slopes; spreading 6 inches of topsoil over areas to be planted; and fertilizing with 1,000 pounds of 10-10-10 per acre.

Shrubs and trees that provided the best cover were Cardinal autumn olive, bicolor lespedeza, and black locust. Weeping lovegrass and American beachgrass proved to be outstanding herbaceous materials. Coralberry, multiflora rose, larch, redstem dogwood, and tatarian honeysuckle were also planted.

Flatpea was the best new species used in the field trials. It is still being evaluated at the Cape May (N. J.) Plant Materials Center and is not yet available commercially.—ROBERT S. JONAS, *district conservationist, SCS, New City, N. Y.*, and W. CURTIS SHARP, *plant materials specialist, SCS, Cape May, N.J.*

Utah

Agencies help brothers improve sheep range

Two government agencies are helping a Utah sheep rancher get the most out of his spring-fall range in the northern end of Tintic Valley.

Each year, range conservationists from the Soil Conservation Service and the Bureau of Land Management meet with Vern Wilson to evaluate conservation work on a tract that includes 5,094 acres of private land and 6,256 acres of federal land.

Cooperation began in 1964 after Wilson applied for assistance through the Juab Soil Conservation District. Plans call for a rotation-deferred grazing system and water supplies that allow each pasture to rest one spring in every 3 years. Seeding and chemical and mechanical brush control are also planned.

To date, Wilson has seeded about 650 acres of his land to crested wheatgrass and laid several miles of pipeline for livestock watering facilities. New fences make it easier for him to handle his Columbia-Rambouillet crossbreed ewes during lambing. BLM has done some seeding and fencing on acreage under its jurisdiction.

Wilson's brother, Emer, raises hay and grain on an additional 225 acres of irrigated land in Heber Valley. The farm is also a home off the range for 150 Suffolk bucks and any of the 3,500 ewes that need special attention.

These arrangements help the Wilsons make sheep ranching a paying proposition in spite of rising operating costs.—EARL SPENDLOVE, *district conservationist, SCS, Layton, Utah.*

Steep bank after gravel has been removed before and after stabilization.

Wilson brothers (Emer, left, and Vern) discuss their conservation plan.

Santa Rosa Little League team in action below dam.

Sixth graders at Dappert Youth Reservation.

California

Baseball and flood control —a California happening

Baseball and flood control go together at Santa Rosa, Calif., 60 miles north of San Francisco. There four Little League baseball diamonds lie in Brush Creek Reservoir, a flood-storage area that is dry in summer.

Normally, Brush Creek Reservoir would remain unused except after heavy winter storms. Urbanization in the surrounding area, however, presents the need for more recreation area, and leaders of the Rincon Valley Little League Association found a suitable baseball site in the dry flood-storage area.

Sonoma County Flood Control and Water Conservation District issued the group a free-use permit. Businesses, individuals, and groups donated time, money, and material estimated at $80,000 for the recreation complex. During the summer of 1969, there were 8,000 recreation user-days on the dry lake bottom.

Recreation facilities—team dugouts, concessions, and restrooms of concrete block construction—are built to withstand winter flooding. Paved access roads and parking areas will have dust control. Sedimentation on the playing field is not a problem since land-treatment practices minimize erosion in the upper watershed.—SHERMAN J. FINCH, *district conservationist, SCS, Santa Rosa, Calif.*

Colorado

Big Sandy Project gives combination of benefits

Colorado's Big Sandy Creek Watershed Project in El Paso and Elbert counties presents a persuasive argument in support of recreation and flood-prevention measures as economical, compatible benefits of small watersheds.

During June 1965, three floodwater-retarding dams in the upper Big Sandy Creek saved the town of Ramah's 400 residents and their property from extensive storm damage when 10 inches of rain fell on the area in 6 hours.

Recreation adds even greater benefits. Ever since Ramah reservoir was filled in 1963, the Colorado Game, Fish, and Parks Division has kept it stocked with fish for public use. About 50,000 people visit the recreational area annually. At $1 a visitor-day, the annual recreational value at the Ramah reservoir exceeds the average annual cost of the entire project—13 floodwater-retarding dams and the Ramah multipurpose reservoir.

The multipurpose watershed project was sponsored by the Big Sandy Soil Conservation District and authorized for operations in 1965. Construction on the 198,484-acre project was completed in 1966 at a cost of $1.8 million.—R. D. ANDERSON, *resource conservationist, SCS, Denver, Colo.* ♦

Illinois

Young people develop camp with elders' help

A youth-sponsored conservation camp near Taylorville, Ill., now replaces 55 acres of cropland and pasture. There youngsters can hike, play ball, picnic, fish, swim, canoe, boat, take pictures, camp, and identify trees.

The Taylorville Area Youth Council obtained a 60-year lease on the land from the city, and then solicited help from the Christian County Soil and Water Conservation District and other civic-minded groups to develop the Boyd Dappert Youth Reservation. The property, which is intended exclusively for youth, includes 1 mile of shoreline on Lake Taylorville.

The Christian County District agreed to assist the Youth Council in 1969. Since then, the Soil Conservation Service helped develop a conservation plan and provided technical services to the council.

District directors became members of several youth committees

and assisted in developing the youth area for conservation education, tours, camp-outs, and supervised tree-trail hikes. A recreation access road, parking area, restrooms, amphitheater, shelter, and a water well have been completed. Trees have been planted and transplanted; tree identification and hiking trails marked; recreation areas seeded; woodland pruned; picnic tables built; and an entrance sign erected.

Contributions to the youth camp come from individuals, service clubs, youth organizations, businesses, churches, and various government agencies. More than 100 individuals and a dozen organizations donated services.

Boy Scouts, Girl Scouts, public school students, 4-H clubs, F.F.A., church and Sunday school groups are currently using the area.—ROBERT CRAFT, *district conservationist, SCS, Taylorville, Ill.* ◆

On the lighter side . . .

Mystery grave causes a stir

One late overcast Friday afternoon, Dudley Griffin of the Bayou Chicot community in Evangeline Parish, La., was checking his livestock herd on the back forty of his farm when he stumbled onto a freshly dug unmarked "grave." When he returned home, he mentioned this to his wife and daughter. They decided to investigate further.

The next morning, the three went to the site. While looking around for clues, Dudley's daughter found an unsigned note tacked to a pine tree: "Dig site 40 steps northwest of this tree along this trail next to *'casket'*." With chills running up and down their spines, they just knew that a body was buried in that freshly dug area.

The neighbors were called to verify the finding, and it was decided to let the sheriff's department handle it. A deputy was sent to the site. He checked the 3- by 6-foot freshly dug area and radioed for reinforcements with spades. A detail of trustees from the Parish jailhouse was rushed to the scene. By this time a crowd had gathered at the site.

At about 3 feet the diggers came across newspapers in the hole. One was a New York paper and the other a Louisiana paper. By then, everyone was convinced that a gangland type killing or maybe the victim of a bizarre love triangle was buried in the hole. Tension mounted, the ladies closed their eyes, cold sweat ran down the men's backs, the prisoners were reluctant to dig any farther for fear of what they might find. But down they went, to the bottom of the pit. The grave was empty! The mystery remained.

Fieldmen studying soils dig pits large enough and deep enough to permit them to examine and describe the undisturbed profiles.

Several newspapers reported the news along with pictures of the area. No one could solve the riddle. Did the killers become frightened and dump the body elsewhere? What, why, and who dug the hole in ground so hard that a pick had to be used?

By Monday morning, the excitement had reached a wide radius. People on street corners were talking about the empty "mystery grave." A newspaper was passed around in the Soil Conservation Service office at Ville Platte. The soil scientists read the article and noticed that the site in the picture looked familiar. It finally dawned on them what had happened. One of their soil sample sites had been "discovered."

The soil survey party leader went to "confess" to the sheriff and then went to see Griffin. When the farmer saw the SCS truck drive up, he, too, realized what had happened. The party leader had contacted him a month earlier for permission to dig a soil sample pit on his property, but he had forgotten about it. He did not realize, either, that a hole of "grave" dimensions would be necessary.

The note on the tree about the "casket?" Well, not only were the soil scientists to describe each horizon of the soil exposed in the pit, but a soil cast or monolith was to be taken for display purpose. Soil scientists sometimes refer to these casts as "caskets."

When the party leader changed his mind about the original site, he posted the note on the tree for the digging detail and left a soil monolith container (casket) for the profile he wanted dug. The newspapers, lunch bags, and other refuse were thrown into the pit and buried to prevent littering.—ARVILLE TOUCHET, *soil scientist, SCS, Lafayette, La.* ◆

Review

Let's Grow! Community Benefits From Watershed Projects. 1970. USDA Agr. Inf. Bull. 337 16 pp., illus. $0.40.

This booklet, illustrated in full color, tells about the new life that a watershed project can bring to a rural community.

The booklet gives concrete examples of some of these benefits: New jobs and millions of dollars in wages from the Brush Creek Watershed Project in West Virginia and the Mud River Project in Kentucky; more water for industry in Poteau River Project in Arkansas; adequate water supply for a new hospital in Virginia; fishing, boating, swimming, and picknicking in nearby watershed lakes throughout the country; new state and regional parks around watershed lakes in North Dakota, Pennsylvania, and Colorado; a protected flood plain in citrus orchards in California; water delivery to farmers and ranchers in Idaho; new farm-based industry in Mississippi; and quality vegetables for food processors in New York.

The examples are illustrative of the benefits, realized and anticipated, from nearly 1,000 projects approved to date under the Watershed Protection and Flood Prevention Act, of which about a fourth have been completed.

New publications

Man-Made Lakes: Planning and Development. EDITED BY KARL F. LAGLER. 1969. Food and Agriculture Organization of the United Nations, Rome, Italy. 71 pp., illus.—A guide for use in the earliest stages of planning manmade lakes or reservoirs. Emphasis on secondary aspects such as regional economic impact; effects of resettlement; environmental changes wrought by construction and flooding; changes in fish and wildlife habitat and management; opportunities for agricultural and industrial expansion; and undesirable side effects such as pollution, human social stress, and the like. Although the photographs and examples imply that it was written for planners in developing countries, the booklet may interest those who seek further information on the international problem of multiple-use water-resource planning. Most of the guidelines have parallels in western methodology; but public health considerations rank higher in Asia and Africa because some tropical diseases and their host organisms thrive in environments created by new water bodies.

Effects of Surface Mining on the Fish and Wildlife Resources of the United States. BY WILLARD M. SPAULDING, JR., AND RONALD D. OGDEN. 1968. (1969). U.S.D.I., Bur. of Sport Fish. and Wildl. Resource Pub. 68. 51 pp.. illus. $0.60.—Following the release of an interagency report on how surface mining affects the total environment, Spaulding and Ogden consolidated the information on fish and wildlife habitat gathered by the Bureau of Sport Fisheries and Wildlife and prepared this publication.

Overall, 3.2 million acres of land had been surface mined in this country. Approximately 2 million acres of wildlife habitat has been damaged, including 1.6 million acres of land and the surface-water areas of 13,000 miles of streams, 281 natural lakes, and 168 reservoirs and impoundments.

The authors organized their information into two major sections: (1) the kinds of damage to fish and wildlife habitat, and (2) the reclamation efforts needed to restore the damaged environment.

Most of the conclusions have been set forth in the previous publication without the statistical detail presented here.

Managing Forested Watersheds, Cooperative Programs for Water Resource Conservation. 1969. USDA PA-919, 12 pp., illus. $0.15.—Of the Nation's 489 million acres of commercial forest land, 358 million acres or 73 percent is in private ownership. Of this, 165 million acres (46 percent) is in farms, 131 million acres (36 percent) is in other private holdings, and 62 million acres (17 percent) is owned by forest industries. These forested lands produce more than 60 percent of the total water yield in the United States and play a vital role in maintenance of water quality. This publication describes Forest Service activities for the forestry phases of a watershed program carried out under the administrative responsibility of the Soil Conservation Service.

The Look of Our Land, an Airphoto Atlas of the Rural United States: The Far West. COMPILED BY SIMON BAKER AND HENRY W. DILL, JR. 1970. USDA Agr. Hbk 372. 48 pp., illus. $0.60.—The Economic Research Service has been conducting studies on present and potential uses of land in the United States. Two earlier publications, USDA Agricultural Handbook 153, *Land Use and Its Patterns in the United States,* published in 1959 and now out of print, and USDA Agriculture Handbook 296, *Land Resource Regions and Major Land Resource Areas of the United States,* compiled by the Soil Conservation Service and published in 1965, presented information on United States resource regions. This atlas brings together text from the latter book matched to photos of samples of three areas in the far West. Each sample is shown by an index mosaic of the area on the left-hand page faced by a stereoptic pair of photos on the right.

Windbreaks for Conservation. BY ARTHUR E. FERBER. 1969. USDA Agr. Inf. Bull. 339. 30 pp., illus.—Windbreaks in fields are most needed where wind erosion is a problem in parts of the vast Great Plains; on the sandy and muck soils in the Great Lakes region; on sandy soils along the Atlantic and Gulf seaboards; and in the irrigated valleys of the Pacific southwest and the Rio Grande, Colorado, and Columbia River basins. They are not only being used in the North and West but are useful in almost every state—even in the Deep South. And they are just as valuable to the country homeowner as to the farmer.

This bulletin, superseding Miscellaneous Publication 759, *Windbreaks in Conservation Farming,* gives the latest information on windbreaks. It also presents a "wind-chill index" table based on a study by U. S. Army research teams of the chilling effect of wind on the human skin.

Private Outdoor Recreation Enterprises in Rural Appalachia. BY HUGH A. JOHNSON, JUDITH M. HUFF, AND J. J. CSORBA. 1969. USDA, Economic Research Service ERS-429. 18 pp.—Study undertaken to determine to what extent recreation enterprises operating in rural Appalachia can help meet the growing urban demands for outdoor recreation and provide profitable use of rural resources and employment for rural people. These findings are the result of analyzing 86 recreation operations studies drawn from a nationwide survey conducted by the National Association of Conservation Districts cooperating with the Soil Conservation Service.

Effects of Conservation Practices on Storm Runoff in the Texas Blackland Prairie. BY R. W. BAIRD, G. W. RICHARDSON, AND W. G. KNISEL, JR. 1970. USDA Tech. Bull. 1406. 31

pp., illus. $0.20.—Objective of this study was to determine the effect of various conservation practices on amounts of storm runoff by studying treated and untreated watersheds in the Texas Blackland Prairie and then developing equations to predict runoff resulting from either of the two conditions on a given watershed. This publication gives the results.

Estimated Use of Water in the United States, 1965. By C. Richard Murray. 1968. U. S. Geological Survey Cir. 556. 53 pp., illus.—The most recent updating of estimates prepared every 5 years by the U. S. Geological Survey of water use, quantities of water withdrawn from surface and groundwater sources, and average annual streamflow in the United States. Tabulations are provided by states and by water-use regions. Total withdrawals increased about 15 percent, from 278 to 310 billion gallons a day, from 1960 to 1965. The quantity of water consumed increased 28 percent in the same period.

What Can You do to Benefit Wildlife on Your Land? 1969. Tennessee Valley Authority, Norris, and Tennessee Game and Fish Commission, Nashville. 16 pp., illus.—Includes basic information about wildlife in general and seven species in particular: white-tailed deer, ruffed grouse, raccoon, gray squirrel, bobwhite quail, cottontail rabbit, and mourning dove. Suggests inexpensive improvement practices that may be scaled to individual interest and capacity.

Techniques for Wetland Management. 1969. Wisconsin Department of Natural Resources, Madison. Research Rpt. 45. 156 pp., illus. Free on request.—A report summarizing the practical experience of Wisconsin wildlife biologists in developing and managing wetland areas for aquatic game species. Covers constructing impoundments; manipulating water levels; managing vegetation mechanically, chemically, and through prescribed burning.

Climates of the World. 1969. U.S. Dept. Com., Environmental Science Serv. Admin. 28 pp., illus. $0.35.—Updates similar data which appeared in "Climate and Man," the 1941 Yearbook of Agriculture and discusses briefly the principal feature of climates of all the continents. Maps of worldwide temperatures and precipitation and tables of monthly and extreme annual temperatures and precipitation, for about 800 stations.

Recreation Site Evaluation. 1968. Bureau of Recreation, Wisconsin. (48) pp., illus.—Helps the developer make decisions in his evaluation of recreation lands; presents the need for preplanning and determining the main purpose of planned developments; and gives guide to site selection.

Guide for Area Overall Economic Development Programs. Rev. 1969. U. S. Dept. of Commerce, Economic Development Administration. 24 pp. $0.35.—Guide to area leaders in preparing and submitting their OEDP and in updating it annually as part of a continuing development program.

A Primer on Waste Water Treatment. 1969. U. S. Department of Interior, Federal Water Pollution Control Administration CWA-12. 24 pp., illus. $0.55.—In color, explains the methods used now and processes being developed for the future to treat wastes.

Handbook of Agricultural Charts 1969. 1969. USDA Agr. Hbk. 373. 146 pp., illus. $0.65.—The annual catalog of charts available from the Department of Agriculture as photo prints or slides.

Managing Public Rangelands. By Richard S. Driscoll. 1969 (slightly revised). USDA AIB-315. 30 pp., illus. $0.25—Effective livestock grazing practices and systems for National Forests and National Grasslands.

Engineers in the Soil Conservation Service. Rev. 1969. USDA Misc. Publ. 956. (20 pp.) illus.—Career opportunities in SCS.

Outdoor Safety Tips. (Rev.) 1969. USDA Forest Service PA-887. $0.15.

Soil Surveys

Grant County, Kansas. By Vernon L. Hamilton, Quinten L. Markley, William R. Swafford, and Harold P. Dickey. 1969. 52 pp., illus.; maps 3.17 inches to the mile (1:20,000).

Fulton County, Pennsylvania. By Norman J. Churchill. 1969. 93 pp., illus.; maps 4 inches to the mile (1:15,800).—Field survey by Norman J. Churchill, Cleo Wildasin, R. W. Long, L. R. Staley, D. M. Hersh, and H. W. Hannigen.

Teton Area, Idaho-Wyoming. By D. M. Daniels, H. L. Hansen, T. W. Priest, and W. G. Perrin. 1969. 95 pp., illus.; maps 4 inches to the mile (1:15,800).

Meetings . . .

Planners to discuss urban environment

The American Society of Planning Officials will meet in New York, April 4-8. Some of the major topics to be discussed are: New York's first comprehensive plan, minorities in the planning profession, neighborhood-initiated plans, what planning with people means in the inner city, the mature suburb and relevancy, effects of physical environment on human behavior, and national policies on urbanization and land use.

Short course sessions will be held on land use policies, environmental protection devices, analytical techniques, and housing and the planner.

The Honorable Shirley Chisholm, U. S. Congresswoman from New York, will give the keynote address.

Dates and places

April 1-3, Engineering Geology and Soils Engineering, annual symposium, Pocatello, Idaho.

4-8, American Society of Planning Officials, New York, New York

12-15, Institute of Environmental Sciences, Boston, Mass.

19-23, Urban Land Institute, Honolulu, Hawaii

28-29, Weeping Lovegrass Symposium, Ardmore, Okla.

May

3-6, Soil Stewardship Week

4-7, National Forests Products Association, Washington, D.C.

4-8, League of Women Voters of the U.S., Washington, D.C.

6-8, Forest Farmers Association sponsoring Southern Forestry Conference, Mobile, Ala.

10-15, International Science Fair, Baltimore, Md.

15-19, National Audubon Society, Seattle, Wash.

17-21, National Council of State Garden Clubs, Inc., Chicago, Ill.

11-14, The Garden Club of America, Boston, Mass. ◆

Small farmer still around

The day of the 40-acre farmer and a mule is about gone, but the 40-acre farmer and a tractor are still around. Ezell Ealy who farms south of Monroe, La., is one of these farmers.

Ealy owns 40 acres and leases 30 acres. He grows 30 acres of cotton, 8 acres of soybeans, and about 6 acres of truck crops. Five cows graze the rest of the land.

Ealy has been farming all his life, but most of the time he was working for someone else. For several years he worked part time in Monroe and farmed on the side.

"I think the farm is a good place to bring up kids," Ealy explained. "It gives them something to do."

In 1962 Ealy quit his job and started to farm full time.

"I haven't regretted it," he said.

Ealy admits he has had problems such as too-wet soil and low fertility. Then there was the problem of financing for his small farming operation. He has these problems solved now.

He signed up as a cooperator with the Boeuf River Soil and Water Conservation District and asked for help on conservation work. The Soil Conservation Service helped as he developed a plan and surveyed and designed ditches for better water management. He applied to the Agricultural Stabilization and Conservation Service for cost-share assistance to build the ditches, to buy lime, and to put in winter cover crops to build up his soil. The Farmers Home Administration lent him money to buy equipment, supplies, and material to put in crops and to do other improvements.

Ealy said that with financial and technical help his farm is paying off by producing enough income to support his family of six.

Last year's cotton yield was one bale to the acre. His soybeans made 25 bushels an acre.

The truck crop brings in early year cash.

"We use a lot of vegetables ourselves," Ealy said. The five cows are milked for family use.

Ealy plans to stay on the farm as long as he is able to make a crop. His four children help him do much of the farmwork. He looks upon this as a worthwhile contribution to the family income. And look where you will, you can't beat life on a family farm—at least on the kind of farm he has. ◆

Land smoothing improves corn silage yields

Experimental land smoothing and surface drainage improvement in New York State resulted in average corn silage yields above those of fields with similar or superior natural drainage, according to Cornell University scientists.

Many of the 127 test acres were once too wet for crops.

Farmers using the technique realized a return of $4 for every dollar invested at the original rate of $30 an acre for smoothing and installation, scientists reported.

The demonstration project was run by the Cornell University Agricultural Experiment Station with assistance from the Soil Conservation Service, Agricultural Stabilization and Conservation Service, soil conservation districts, and county extension offices. Results were reported at the 1969 meeting of the American Society of Agronomy in Detroit, Mich. ◆

Erosion follows fires

Water-repellent soils are a problem in the steep, unstable foothills that lie above highly populated areas in southern California brushland watersheds. The high erosion rate is due, in part, to a water-repellent layer formed during brush fires that are all too common during long dry seasons. Although downstream flood damage has been reduced by dams and reservoirs built in canyons above communities, repeated erosion makes maintenance of their storage capacity a costly process.

Earthworms studied for use in strip-mine reclamation

Earthworm inoculation may some day be added to standard procedures for strip-mine reclamation already developed to cover spoil banks with new vegetation.

Earthworm populations established on heaps of clay shale in northeast Ohio buried leaf litter beneath black locust trees during a 180-day experiment. Plant nutrient concentrations in the spoil banks increased significantly as earthworm activities hastened leaf decay and organic matter incorporation.

Field results were confirmed by Dr. J. P. Vimmerstedt, a research forester who conducted simultaneous greenhouse studies of spoil material cores at the Ohio Agricultural Research and Development Center in Wooster, Ohio.

In a paper presented at the 1969 joint meetings of the American Society of Agronomy, the Crop Science Society of America and the Soil Science Society of America, Vimmerstedt reported that earthworms confined to specific spoil-bank areas for 2 years buried or consumed about 2.2 tons per acre of litter and 10 tons per acre of unmixed surface organic matter. ◆

USDA to aid Black Hills RC&D Project

The Black Hills Resource Conservation and Development Project in South Dakota and Wyoming has been authorized for accelerated financial and technical aid.

More than 200 Black Hills RC&D Project proposals were developed by local people.

The project area covers Butte, Meade, Lawrence, Pennington, Custer, and Fall River counties in western South Dakota and Crook, Weston, and Niobrara counties in adjoining Wyoming.

The sponsors are 14 soil and water conservation districts, one subconservancy district, and nine boards of county commissioners.

The Black Hills RC&D Project is the 55th to qualify for operations assistance from USDA agencies. ◆

Recon . . .

A quick overview of the conservation scene

Representatives of two competing land uses in California have agreed on the future of the Pleasanton Plant Materials Center. SCS will use funds from its sale to Alameda County, authorized by an act of Congress in September 1967, to buy and develop a new site. In a few years, the present center's conversion from nurseries and test plots to fairgrounds will be complete.

Landfill—sanitary?

"While industry designs sophisticated salvaging equipment, municipal officials lag far behind in adapting to changes in the character and quantity of solid wastes. Seventy-five percent of municipal solid wastes are still disposed of in open dumps and more or less compacted by bulldozers. According to the Public Health Service, less than 10 percent of these sites qualify as sanitary landfill."—JOHN H. ABRAHAMS, manager of environmental pollution control programs for the Glass Container Manufacturers Institute, Inc., in a talk to Washington Chapter of the Soil Conservation Society of America.

Professors at the University of Michigan (Ann Arbor) are trying to develop computerized learning games for use in a course in natural resource management. With the help of a National Science Foundation grant, James T. McFadden and his associates hope to create and program a series of simulated animal populations and environments. Student teams will base decisions on typical information, but, unlike real managers, they will learn long-term results in minutes. Complex versions of the increasingly difficult games will also include economic, political, and sociological factors.

The drive for erosion and sedimentation control goes on in Maryland where pioneer ordinances were passed in 1965. This year citizens and local officials in Anne Arundel County hope to add their erosion and grading control ordinance to the list started by Montgomery and Prince Georges counties.

It all adds up

"When we talk to individuals and corporations, we are left with the impression that they view their little bit of pollution as the exception; it is so small that it can't have any significant impact on the total environmental problem . . . We forget that our national problems are the aggregation of all of the small things . . . the several bits of paper add up to be an immense problem in environmental degradation . . . the single beer cans amount to a highway cleaning job that costs the taxpayers of Louisiana $2 million every year. We gripe about the high cost of government and yet here is a very direct way in which we can begin to cut the cost of government services."—GERALD J. MCLINDON, *dean of the School of Environmental Design, Louisiana State University, Baton Rouge, La., to the Louisiana district supervisors, January 5, 1970.*

In Michigan, sediment control is on its way from voluntary programs to written regulations that can be enforced. The Washtenaw County Metropolitan Planning Commission is reviewing provisions included in a model subdivision control ordinance. In addition, the city of Ann Arbor is reviewing its own proposed soil erosion and sediment control ordinance.

Predictions by J. Millard Tawes, Maryland's Secretary of Natural Resources:

Soil conservation will become a cost of doing business for every land development and land use in Maryland during the next decade . . . Acid mine waters that poison streams and rivers will be well on the way to extinction by 1980 . . . The geologist will join with the biologist in efforts to determine the best uses for the state's more than 300,000 acres of wet lands which are vital to the ecology of marine life.

Waste recycling methods may someday make conventional sewage disposal systems obsolete. Citizens of Muskegon County, Mich., are refining ways to "loop the system" with the help of matching funds from the Federal Water Pollution Control Administration. Their recycling program designed for urban areas incorporates sewage pipelines to outlying settling lagoons and spray irrigation of pastures that grow food for livestock and thus for people. By dealing with wastes as a nutrient source rather than a nuisance, planners envision a 69 percent return on initial investment.

Several states in the Northeast and far West have responded to the pressures of urbanization by assessing their supply of prime agricultural land. Results of one of the most recent studies were published by Pennsylvania this January. In addition to taking stock of the quantity and quality of the state's remaining farmland, the Governor's Committee for the Preservation of Agricultural Land made recommendations for its "systematic and orderly preservation." SCS provided basic data for delineating areas of potentially productive land in the Keystone State.

From the Administrator:

Districts and the new Everybodies

Whose world is it?

Everybody's, of course.

Whose responsibility? Everybody's. And all of a sudden, a lot of Everybodies are interested in the environment.

They look around at degraded landscapes and polluted rivers. They watch orchards turn into unplanned slurbs, and they wrinkle their noses at "garbage can" air. When they can, they escape into the countryside.

Many of the Everybodies think that the land "out there" stays productive and beautiful all by itself. Some of them remember those years when the countryside, too, was ravaged; when streams were "too thick to drink and too thin to plow;" and, in the Dust Bowl area, the air was often filled with choking, blinding dirt. And remembering, they may realize that almost behind their backs, conservation **has** been steadily going on.

Who are the new "Everybodies"—the people among whom concern for conservation, ecology, and the environment is growing?

A few of them wring their hands and cry a lot. A few more slam around and stop there. But most of them are seriously concerned men and women who are willing to get involved. The problem is, they don't know where to turn; what doors to knock on, what phones to ring, what conservation programs are available to work in.

Many of the newly aroused are young people—students, housewives, young workers. Listen to a few of their remarks about conservation and the environment from a recent issue of the magazine, **Cry California:**

"People are afraid, very afraid."

"When I was little, the water was clean and we could go swimming. But . . . I've seen the pollution grow and destroy. So this week I'm swtiching from an art major to biology. I want to be able to do something."

"I'm aware that we've got problems, but I'm stymied and don't know what to do about them."

And, over and over, the interviewer heard variations of this thought.

"I'd stand behind anyone who had a good plan. I really would."

Conservation districts have had a positive action program to improve the environment for years. A once-scarred, now-beautiful countryside is their monument.

Conservation district supervisors have held the line in many areas when the conservation idea was out of sight, out of fashion, and almost out of funds. They've worked hard and effectively. But five men in a community, no matter how hard-working, cannot meet the widened conservation demands of today. They deserve more help.

Isn't there a tremendous opportunity to match the people who want to be actively involved with the districts which seek help? Aren't there conservation jobs in every district to challenge the energy and thinking of businessmen, bus drivers, housewives, retirees, and young people? Can't we, particularly, work to enlist the talents of the young?

Working with young people is a two-way street. Are they impatient? Perhaps. Inexperienced? Sometimes. Necessary? Absolutely.

District supervisors and professional conservationists can show them the "why" of patience when working with Nature. We can help change inexperience into knowledge. We can benefit from their energy and idealism. And, we can listen to them; to their ideas, their feelings, their hopes for the future. It's their world, too—and for longer than it is yours or mine.

The essence of conservation is renewal. Conservation movements, too, need the renewal that comes from new people and infusions of fresh energy. Conservation districts have a vitally important job to do, and there are people willing to help. Let's help get the two groups together.

Kenneth E. Grant

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Woodland contest yields a double prize

Contest winner, Helton Henley, marked and cut his trees and marketed the products.

A Youth Forestry Contest in the Poteau River Soil and Water Conservation District in Arkansas netted the winner, Nelton Henley of Waldron, not only a $75 Government bond as a prize but a $200 profit on his project.

Participants were required to select a woods, or part of a woods, 2 to 5 acres in size, write an objective forestry plan, and improve the woods as set forth in the plan.

Each plot was scored after the work was completed by a panel of professional foresters representing the Agricultural Extension Service, Arkansas Forestry Commission, and the Soil Conservation Service.

Henley, a senior vocational agriculture student, used 2 acres of his father's woods as his project. He fenced the plot and protected it from fire and grazing; deadened cull trees; marked the woods for a selective cut; cut the trees himself and converted them into marketable products; and hauled them to the mill and sold them.

The best trees remain, the woods were not overcut, and the value of products left standing is estimated at $468.

Best yet, in 5 to 6 years young Henley can make another profitable cut, and from this experience he knows how to do it.—MAX D. BOLAR, *forester, SCS, Little Rock, Ark.* ◆